

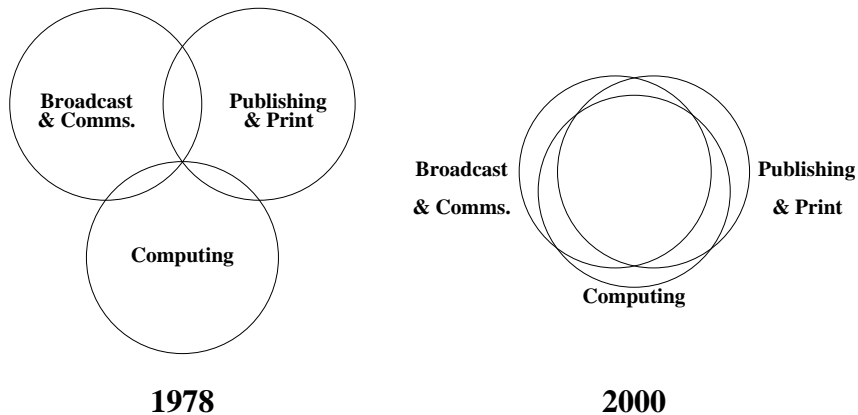
Editorial

In this Special Issue on Multimedia Publishing we need to establish at the outset, what the term ‘multimedia publishing’ means. In particular, how is it distinguished from ‘electronic publishing’ and why should a special issue of *EP-odd* be devoted to the subject? The problem here is that the word ‘multimedia’ itself is an almost meaningless term that was invented towards the end of the 1980s to describe the new phenomenon of combining data of different types, such as text, graphics, animation, video and audio, into a single computing environment. So the phrase ‘multimedia publishing’ means making data of more than one media type publicly available. Note that the word ‘media’ here is used to convey the type or nature of the data — static or dynamic, text or graphics, visual or auditory etc. It is nothing to do with the delivery mechanism — indeed it is quite possible to use a single medium, such as CD-ROM, to deliver multimedia information.

So we see that multimedia publishing is, strictly speaking, a subset of electronic publishing. The multimedia publishing field generally concentrates on those aspects of electronic publishing that bring about multimedia publications. According to this definition a purely text document would not be considered to be a multimedia publication, even though it might be made available on different media such as CD-ROM, floppy disc or in paper form.

It is quite possible that the term ‘multimedia’ will become completely redundant in the future as all computers become multimedia computers (in the same way that in the UK we no longer refer to ‘new pence’ 20 years after the introduction of decimal coinage). However there will always be a difference between electronic publications that can be produced in paper form and those that cannot. It is, therefore, the availability of dynamic data types, such as animations, video and audio, on computers that is really going to bring about the electronic publishing revolution that has been predicted for so long. When it is no longer possible to produce publications in paper form, i.e. when they include dynamic data types, then readers (or should we call them viewers) will be forced to accept electronic publication as the norm.

The availability of digital audio and video technology on essentially standard desktop computers at an affordable price, together with the means to disseminate this information to the general public using optical disc technology or high-speed networks, is finally enabling three initially disparate communication and information industries to merge. This merger was foreseen as early as 1976 when Nicholas Negroponte, now the Director of MIT’s Media Lab, predicted that by the end of the 20th century the merger would be almost complete and that it would revolutionize the way we acquire and access information. He illustrated his prediction using the following diagram:-



(Adapted from *The Media Lab* by Stewart Brand — Penguin 1978)

The television that sits in the corner of our living rooms will soon be replaced by a computer that will deliver the same high quality moving pictures and sound but will also be highly interactive, allowing us to choose from a whole range of information sources through which we can skip and scan at will. I use these words carefully because it will be many years, if ever, before we cease to use printed material for more detailed study.

The multimedia publishing revolution is, therefore, highly technology-driven. We have to understand the limitations of the currently available technology and the associated cost-factors before we can appreciate what is driving the development of multimedia publishing. The [first paper](#) in this special issue, by Harrison, presents a review of current multimedia technologies and dissemination systems. It is a wide-ranging summary that encompasses technologies that have been in use for many years, such as the telephone and broadcast television, and shows how we are building on these well-established technologies to deliver multimedia information on a mass-scale. It emphasises that multimedia publishing is not just about taking material from a hard-disc and putting it onto a CD-ROM.

The [second paper](#), by Clark, Cheah and Tan, considers how the text processing system, $\text{T}_{\text{E}}\text{X}$, can be extended to support hypertext and multimedia facilities. This type of work is particularly important to organisations that have a heavy investment in text processing systems and want to move into multimedia publishing. It addresses the needs of authors who want to prepare multimedia publications using familiar tools that are enhanced to deal with new data types and structures.

Clearly the application of hypermedia is inextricably bound to developments in multimedia publishing. The two terms are not synonymous. A hypermedia system is one that permits links to be made between associated multimedia objects in a controlled and well-defined manner. The *ad hoc* creation of ‘goto’ jumps between different objects can be construed as a hypermedia-like activity but it does not constitute a hypermedia system. Nevertheless the availability of links, however they might be represented, between different items of data is rapidly becoming a standard feature of multimedia systems. Hypermedia and multimedia authoring systems are highly complex because of the potentially dynamic and temporal nature of the data they are designed to handle. International standards are therefore required to enable data exchange between different systems. Two

of the main standards under consideration by the international multimedia community at the moment are HyTime and MHEG. These are described and discussed in the last two papers in the special issue.

The paper by Carr, Barron, Davis and Hall is written as a follow-on paper from the “Why use SGML?” paper by Barron. It describes the HyTime standard, which is based on SGML, and discusses its advantages and disadvantages. The use of HyTime as a hypermedia interchange standard is illustrated by the mapping of links between the Microcosm hypermedia system and HyTime. The paper by Rizk, Malezieux and Leger, describes the use of the MHEG standard in the Multicard hypermedia system. Both Multicard and Microcosm are open hypermedia systems and these papers serve to underline the direction that is being taken by the multimedia publishing community to separate data (information) from the structure by which it is to be presented.

There remains an inevitable conflict between material that can be printed in paper form and material that cannot. For example, in the world of academic journal publishing there are a number of experimental electronic journals already in existence, utilising different formats and models for publication. The technology is now available to include dynamic media as part of these publications. In many subject areas this could completely revolutionise the way academic research work is reported. Indeed, this very journal has already published a CD-ROM of its first six volumes, using the Adobe Acrobat format and it is clear that Acrobat will be extremely influential in the way we disseminate multimedia information in the future. There is every chance that the papers in this present issue will appear on a future update of that CD-ROM not only as linked text but also with appropriate multimedia ‘added value’.

Technological developments are moving so quickly that it is impossible to cover all aspects of multimedia publishing in one journal issue. It is my hope that the four papers presented here reflect some of the main issues and may generate further discussion on this topic in future issues of the journal.

WENDY HALL, GUEST EDITOR